

THE NEED FOR IMPROVEMENT AND ADDITIONAL
EMPHASIS IN PRICE FORECASTING BY
THE PURCHASING FUNCTION

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by
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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Although the importance of industrial procurement was first recognized during World War I, the most significant period of growth for this function has been over the last two decades. During this latter period of time, the purchasing function has progressed from a subordinate clerical position to one of high regard within the company organization. Most progressive managements now recognize that the purchasing department is actually a profit making center and is capable of making significant contributions in many important areas. This increased recognition of purchasing's importance has not come about simply by chance or through the mere passage of time. Instead, it can be directly attributed to the concentrated effort which has been put forth by purchasing agents throughout the country to achieve this goal. By seeking additional responsibilities, improving their department's efficiency, and making significant contributions to management, these men have succeeded in raising the status of the purchasing profession to its present position.

Notwithstanding the progress already made in procurement, there are many who feel that this function is still in the pioneering stage; and, as such, management can

expect even greater contributions from this area in the future. In the past, purchasing has concentrated its efforts in those areas where immediate and tangible benefits could be realized. These programs have been highly successful and, in part, have been responsible for the increased recognition of purchasing as a major company function. It must also be recognized, however, that there are many highly profitable programs that can be undertaken which do not result in either immediate or tangible gains. Nevertheless, these programs are extremely important to the long-run profitability of the company. The future progress of the purchasing function will depend upon the successful exploitation of these programs as well as those of the former type.

One of the most significant programs in this category is that of price forecasting. Accurate forecasts of future price changes in purchased parts, materials, and services can aid other company functions, as well as purchasing, to accomplish their objectives in a more effective manner. Unfortunately, however, very little has been done to determine the adequacy of purchasing's price forecasting programs. Information concerning the extent of purchasing's present activity in price forecasting and whether purchasing agents actually realize the full significance of this procedure is lacking. Specific recommendations for improvement or increased emphasis in this vital area cannot

be made until this information is available.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine if additional emphasis or improvement is required in purchasing's price forecasting program. To accomplish this objective, it was necessary to (1) analyze the extent or degree of purchasing's present activity in price forecasting and (2) determine whether purchasing agents are actually aware of the full significance of price forecasting to their own department and to management.

Importance of price forecasting. Although forecasting has long been an important tool to the economist and has achieved wide recognition as a management aid in recent years, very little has been written in the leading purchasing textbooks, magazines, and reference manuals to show the importance of forecasting by the purchasing department. Despite the lack of literature on this subject, it can be readily shown that forecasting by the purchasing function is extremely desirable and, in fact, is necessary if maximum efficiency is to be obtained. The following discussion on the importance of price forecasting by the purchasing department is neither extensive nor exhaustive. A discussion which attempted to show all of the contributions

which can be expected from an adequate forecasting program would necessarily be voluminous and is beyond the scope of this study. However, it is felt that the more important contributions of this procedure should be delineated in order to justify the statement that price forecasting is important.

Probably the best method of establishing the importance of forecasting¹ would be to show how this procedure can materially assist the purchasing and management functions to accomplish their basic objectives. With this method of presentation in mind, the following discussion will be directed to the purchasing department first and then to the management function.

Purchasing. According to the Purchasing Handbook, the purchasing function has four specific objectives. These are:

1. Cost reduction or profit making
2. Control of financial commitments
3. Control of negotiations
4. To provide information and assistance in the specialized purchasing field to management and other groups. ²

¹ The term "forecasting" in the remainder of this discussion should be interpreted to mean price forecasting by the purchasing department.

² George W. Aljian, Editor in Chief, Purchasing Handbook (New York: McGraw-Hill Book Company, 1958) p.1-5.

Although other textbooks may list the objectives of the purchasing department in a slightly different manner, there are no serious deviations in content. The following paragraphs will attempt to show why price forecasting is necessary if the purchasing function is to accomplish these objectives in the most effective manner.

1. The cost reduction or profit making objective is certainly one of the most important considerations in purchasing today. The rise in the number of departments using "value analysis" techniques and other scientific cost reduction programs gives evidence to this fact. The basic aim of any cost reduction program is to procure the necessary parts, materials, and services at the lowest cost, consistent with the necessary quality. There are many techniques and methods available to purchasing for accomplishing this objective. However, in evaluating any cost reduction proposal, it is necessary to consider the future price levels of the alternatives as well as the present prices. This is necessary because, in general, it will be at least six months to a year before an accepted change can be incorporated into the production schedule. The lack of forecasting or inaccurate forecasting of these future prices can actually lead to a loss rather than a savings for the company. Forecasting of future prices will also aid in determining what parts require cost reduction activity. In

many cases, it is possible to minimize the effects of a future price increase if action is initiated before the price change becomes effective.

Another method of attaining this cost reduction or profit making objective is to buy the proper quantities of materials at the proper time. Some textbooks list this method as a separate objective of the purchasing department. One such reference explains this objective in this manner:

To obtain the quantities of materials necessary to provide uninterrupted production and at the same time keep the investment in inventory at the lowest point possible, consistent with economical ordering quantities and market conditions. ¹

This statement indicates some of the problems involved in deciding what quantity to buy. A decision of this kind must not only consider the savings derived through ordering larger quantities and obtaining quantity discounts, freight savings, etc., but must also consider the effect these larger quantities will have on inventory carrying charges. In other words, the cost of acquisition must be weighed against the cost of ownership in order to determine the most economical ordering quantity. In addition, this decision must also be based on a forecast of future price levels, since a change in these levels can affect both the cost of ownership and acquisition. The determination of the proper

¹ Howard T. Lewis and Wilbur B. England, Procurement-Principles and Cases (Homewood, Illinois: Richard D. Irwin, Inc., 1957), p. 7.

ordering quantity, based on present price levels, can be accomplished fairly accurately by using "Economic Ordering Quantity" formulas or other scientific methods. However, since these results are based on present prices, some allowance must be made for expected price changes in the future. Needless to say, the accuracy of this final decision will depend largely upon the accuracy of the forecast of future price changes. Therefore, if purchasing is to accomplish its profit making objective, the proper quantities must be purchased and this necessitates the accurate forecasting of future price changes. The time element is equally important. An accurate forecast of when prices are expected to change and by how much will help tremendously in determining the best time to place future orders. and when they will be used 2. The control of financial commitments is extremely important to company management as well as the purchasing function. Since, on the average, the purchasing department spends approximately 50 per cent of the total revenue brought in by sales, it is important that this commitment of company funds be closely controlled. One of the most effective methods of controlling these expenditures is to use a budgetary control system. This procedure has the added advantage of also serving as a means for appraising the performance of the purchasing department. However, the usefulness of a budgetary control system depends upon

the accuracy with which it is formulated. Any budget which must be constantly revised is practically useless for control purposes. Without going into detail, the purchasing budget is usually formulated in the following manner. The sales department forecasts the number of units which they expect to sell during a given time period in the future. The production control department then develops the plant production schedule from the sales forecast. This production schedule lists the estimated number of units which will be built in the plant for each month or quarter in a future time period. Then, by analyzing the components which are used in these units, the production department can advise purchasing of the approximate number of components which will be needed in the future and when they will be needed. Purchasing must then estimate the prices that will be paid for these components and complete the estimate by showing the approximate expenditure which will be made for each month in the given future time period. Since it is unreasonable to assume that prices will remain constant over long periods of time, purchasing must be able to accurately forecast price changes. An estimate by the purchasing function which does not take future price changes into consideration is actually of little value. It cannot be used effectively for budgetary purposes nor to evaluate the performance of the purchasing department. In addition,

it may mislead company management as to the future profit position of the company and cause incorrect decisions to be made.

3. There are many reasons why the purchasing department should keep a tight control over the negotiations between outside suppliers and other departments within the plant. One of the primary reasons for these strict controls is to minimize the possibility of any department disclosing information to salesmen which might be harmful to the company. Unfortunately, price forecasting can do little to help achieve this objective.

4. The fourth objective of the purchasing department is to provide information and assistance in the specialized purchasing field to management and other groups. Because of purchasing's constant contact with the market and outside suppliers, many departments depend on purchasing to keep them up to date on the development of new materials, processes, and techniques. These departments also have the right to expect the purchasing department to advise them of any changing economic conditions or important price changes. Since many engineering, production, and accounting decisions are based directly on this type of information, it is imperative that the data supplied be as accurate as possible. This means that the purchasing function must use the best forecasting techniques available.

Management. The objectives of the management function are far too numerous to list. For our purposes, it will suffice to show how management could use purchasing's forecasts to aid them in accomplishing five of these objectives. The five management objectives which will be discussed in the following paragraphs are:

1. to maintain or improve upon the company's profit position.
2. to determine the most profitable product-mix.
3. to determine which parts are manufactured in-plant and which are procured from outside suppliers.
4. to determine the prices of the company's products.
5. to appropriate the company's funds in the most profitable manner.

1. One of management's primary objectives is to maintain or improve upon the company's profit position. Since our economy is characterized by rapid growth and instability, management must continually plan for the future and base their decisions on these plans. The existing situation with regard to business has been well summarized by the editors of Fortune Magazine in the following quotation:

The rapid and accelerating changes of the past quarter-century have produced a new sort of business leader, unwilling to be propelled aimlessly by the shifting winds and waves of immeasurable economic forces. A manager, indeed, might be defined as a man who wants to navigate his course of business as exactly and predictably as he can. While he makes various decisions by hunch, dead reckoning, or some reaction to

current market conditions, he prefers to rationalize decisions, calculating the risks and analyzing the markets. He maneuvers not so much by feel as by instruments, which become more numerous-and more complex-year after year.¹

The decisions of top management must be based on the best information available if company profits are to be maintained or improved. Regardless of the decision under consideration, management must be able to thoroughly evaluate the future profitability of each of the many alternative choices of action. In order to evaluate the future profitability of any particular action or set of actions, it is necessary to forecast the future revenues and costs which will result under the given set of conditions. An attempt to forecast costs depends on two basic sub-forecasts; namely, the sales forecast and price forecasts of the factors of production. Since purchased parts, materials, and services represent well over 50 per cent of these factor costs, it is important that an estimate be carefully made in this area. Logically, this estimate can be made most accurately by the department responsible for procuring these items. If this department is operating efficiently, it will have a thorough knowledge of both present and future market conditions and will be in the

¹ Fortune, January 1955, p. 84.

best position to provide this information. Hence, the purchasing forecast can be used directly by management to assist in evaluating the profitability of future courses of action. In this manner, the purchasing forecast is assisting management to accomplish the company's profit making objective.

2. Another management objective is to determine the most profitable product-mix, i.e., to decide what products can most profitably be manufactured by the company. Management, in attempting to maximize profits, must continually judge the profitability of each of their main products and decide whether (1) to add new products; (2) drop existing products; (3) improve the profitability of existing products; or (4) any combination of the above three alternatives. Hence, the profitability of each product must be determined and evaluated against the possible profitability of other alternatives. Here again, profitability depends on cost of production and in turn upon purchased costs. A decision of this kind must be based on future conditions as well as those existing at present. The purchasing forecast would help immeasurably in evaluating these future cost conditions and/or profitability.¹

¹ For a discussion of the problems involved in multiple product selection, see-Joel Dean, Management Economics (Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1951), Chapter 3.

3. One of the most important and yet most difficult management objectives is to determine the prices of the company's products. It is beyond the scope of this study to discuss all the factors and considerations which determine the prices a company charges for its products.¹ However, it is safe to say that all pricing policies must in some way be related to costs. Since this is true, management is vitally interested in any expected change in costs. Here again, the purchasing forecast will be of value to management inasmuch as it can furnish these estimated price changes on purchased materials.

4. A fourth objective of management is to determine which parts are manufactured in-plant and which parts are procured from outside suppliers.² A decision to transfer a part from in-plant manufacture to purchasing or vice versa is usually based on the profitability of such a transfer. In addition, most of these transfers are considered to be permanent in nature.³ Therefore, before

¹ See Dudley F. Pegrum, Public Regulation of Business (Homewood, Illinois: Richard D. Irwin, Inc., 1959), Chapter 8.

² This is commonly known as management's "Make or Buy" program.

³ An important exception here is the parts handled under a "sub-contracting" program. These parts are transferred only temporarily to help keep the in-plant work load at the optimum level.

such a decision can be made, it is necessary to forecast both future in-plant production costs and future suppliers' costs. The purchasing forecast can be used to great advantage in estimating future suppliers' costs.

5. One common management objective is to control the financial structure of the company so that funds are appropriated in the most profitable manner. Sherman Maisel summarizes this objective well in the following quotation:

Finally, successful firms must pay energetic attention to their financial problems. The flow of funds in and out means an ever changing position with respect to liquidity and availability of resources. Capital investments must be budgeted carefully with regard to future financial requirements so that the alternative costs and risks of particular decisions can be taken into account. ¹

A large portion of a firm's finances is generally tied up in inventories. Top management must exercise overall control of this area and set the limits within which the inventory value may fluctuate. Once these limits have been determined, it is then possible to determine the maximum and minimum number of days supply of the major items to be kept in stock. ² These sub-limits are then used to assist

¹ Sherman J. Maisel, Fluctuations, Growth and Forecasting, (New York: John Wiley & Sons, Inc. 1957) p. 7.

² Naturally, other factors help determine inventory levels also, but the amount of money which can be allotted to carrying inventories is one of the main considerations in determining the maximum limits allowable.

in determining production lot sizes and purchasing's ordering quantities. However, management must continually review this situation and alter the control limits when necessary. Since inventory levels are partly controlled by the allowable dollar value in inventory, these levels can be altered by expected price changes. It is necessary, therefore, for management to be constantly aware of the trend of future prices in purchased parts. For example, if the forecast shows that prices are expected to increase approximately 3 per cent in the coming year, management must either maintain the same stock levels and allocate more money to inventories or reduce the inventory levels and maintain the same dollar allocation. The purchasing forecast will provide this type of price information for purchased parts.

Conclusion. This discussion has attempted to show only the major reasons for the importance of a purchasing price forecasting program. It was not within the scope of this study to present all of the benefits which this procedure is capable of producing. Most noticeably missing from this discussion has been an examination of the value of this procedure to other company functions, such as accounting, engineering, and production control. In addition, the full value of price forecasting to the purchasing and management functions has not been presented. Nevertheless, enough has been shown to fully justify the

statement that price forecasting is an important purchasing program.

Importance of the study. There can be little doubt that all purchasing departments must of necessity make forecasts of future price changes. However, the degree of thoroughness used in making these forecasts can and does differ considerably between companies. These forecasts may vary all the way from the "naive" type which is based on the mere projection of current levels into the future to an elaborate, formal forecast which is based on a thorough analysis of many determinents. Naturally, the accuracy and usefulness of any forecast will depend to a large degree upon the care which has been exercised during its preparation. Sherman Maisel illustrates this point very clearly when he stated:

It should be recognized that it takes time, effort, and energy to make a good forecast. A difficult problem cannot be solved in an offhand manner. The curbstone opinion of the lawyer is notoriously fallible. The same is true of the offhand opinion of an economist or any other person asked to predict what will happen without doing the necessary research.¹

Unfortunately, studies have not been made to determine either the degree of purchasing's present activity in this area or

¹ Maisel, op. cit., p. 395.

whether purchasing agents actually realize the importance of price forecasting.¹ The purpose of this study was to provide this information so that the need for additional emphasis in this area could be ascertained.

II. DEFINITIONS OF TERMS USED

Procurement. Some authors find it desirable to define the terms "procurement" and "purchasing" separately. H. T. Lewis and W. B. England chose to define these terms as follows:

In general usage the term "purchasing" describes the process of buying-learning of the need, selecting a supplier, negotiating price and other pertinent terms, and following up to insure delivery. "Procurement" covers wider areas and includes the duties performed by purchasing, as well as such additional functions of materials supervision and management as inventory control, receiving, incoming inspection, and salvage operations.²

¹ There is no mention of either study having been made in any of the leading purchasing textbooks or handbooks currently on the market. In addition, Mr. H. T. Lewis (Professor Emeritus, teacher of Purchasing at Harvard Graduate School of Business Administration and author of one of the leading textbooks in this field) stated in a letter dated February 19, 1960 and addressed to Professor R. M. Lovejoy of Drake University, that he knew of no studies which had been made in either area. A similar letter, dated February 29, 1960, and addressed to the author, from Mr. A. V. Nelson (Editor of Purchasing News Magazine) stated the same thing.

² Lewis and England, op. cit., p. 2.

Despite the accuracy of this definitive distinction, most firms use the terms interchangeably. This study has followed the common usage of the terms and considered them to be synonymous.

Forecasting. Forecasting may be simply defined as a description of a future situation. Within this general definition, however, there are many specific types and classifications of forecasts. One method of categorizing forecasts is by their end purpose. Examples of this classification are the sales forecast, weather forecast and price forecast. It is also possible to classify forecasts as being either of the "internal" or "external" type. Internal forecasts are based on conditions within the company which can be controlled by management, whereas external forecasts are based on conditions outside the company which are beyond the control of company management. Forecasts may also be classified by the time period encompassed by the forecast. Short-run and long-run forecasts are examples of this time period classification. This study was concerned primarily with external, short-run price forecasts.¹

¹ Short-run forecasts include estimates covering a period of up to and including one year.

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

Chapter II was devoted to an explanation of how the study was conducted. Section one of this chapter describes (1) how the universe was determined; (2) how the survey size was determined; (3) how the data were obtained; (4) how the questionnaire was designed; and (5) what follow-up procedures were used. The second section discusses the known limitations of the techniques which were used in the five areas listed above.

In Chapter III, the results or findings of the study were examined. This chapter is broken down into three sections. The first section describes the response to the questionnaire and some of the more important characteristics of the departments included in the survey. Sections two and three relate the questionnaire findings to the two basic questionnaire objectives; namely, to determine the extent of purchasing's present activity in price forecasting and to determine whether purchasing agents are aware of the full importance of this procedure.

Chapter IV was divided into two sections. The first section is a summary of the developments of previous chapters with particular emphasis on the more important findings and conclusions of the study. In the second section, the investigator's recommendations for increased emphasis in price forecasting are made.

CHAPTER II

METHODOLOGY AND LIMITATIONS OF THE STUDY

The purpose of this study was to determine if additional emphasis or improvement is required in purchasing's price forecasting program. To accomplish this objective, it was necessary to obtain information concerning (1) the extent of purchasing's present activity in this area and (2) whether purchasing agents are aware of the full importance of price forecasting. The first section of this chapter describes the techniques which were used in obtaining this information. The second section discusses the known limitations of these techniques.

I. METHODOLOGY

Determination of the universe. Due to financial and time restrictions, it was necessary to limit this study to the members of the Central Iowa and Tri-Cities Purchasing Agents Associations. These two associations draw their membership from the entire state of Iowa and the western half of Illinois. As of January 15, 1960, there were approximately 221 active members in these two associations.

Determination of the survey size. The size of the survey was determined by the number of purchasing depart-

ments represented in these two associations. One representative from each separate department was selected for inclusion in the survey. In those instances where the same department had two or more representatives in the association, an attempt was made to select the man with the highest authority in that department. In this manner, 167 members, each representing a different purchasing department, were included in the survey.

Data collection methods. The required information was obtained by sending a mail questionnaire to all members included in the survey. The decision to use a mail questionnaire was prompted by several considerations. Among these were the time factor, cost factor, number of sources desired, and the amount of information required. In addition, the disadvantages of the phone and personal interview methods greatly outweighed their advantages. For this study, the mail survey was clearly the most logical choice for obtaining the desired information.

Design of the questionnaire. The questionnaire form was structured and non-disguised. Most of the questions asked were either of the multiple-choice or dichotomous type. A few open-end questions were included for control purposes. A sincere attempt was made to assure that all

questions were understandable, unambiguous and germane.¹ The questionnaire also contained certain questions which were unrelated to this study. There were two basic reasons why these questions were included. First, some of these questions were easy to answer and helped stimulate interest in the rest of the questionnaire. It was anticipated that this procedure would help to increase the number of completed questionnaires. Second, some of these questions were of direct interest to the investigator and were included in the survey for that reason. In addition to the information block, there were a total of 40 questions in the study.²

Follow-up procedures. In order to achieve a satisfactory return, it was felt that one follow-up letter would be necessary. Records were maintained to indicate (1) to whom the questionnaire was mailed; (2) the date of the first mailing; (3) the date the completed questionnaire was returned; and (4) the date the follow-up letter was sent out. The questionnaires were mailed out initially on January 29, 1960. Follow-up letters with another copy of the questionnaire were mailed on February 13, 1960 to all

¹ During the questionnaire development stage, constructive criticisms were made by Drake University Professors Alley, Easley, and Lovejoy. The questionnaires were also pre-tested at two local companies before they were finalized.

² See Appendix A for a sample of the questionnaire.

members who had not replied to the first mailing.¹

II. LIMITATIONS

Determination of the universe. A much more meaningful study could have been conducted if the universe had included all purchasing agents in the United States rather than just the members of the Tri-Cities and Central Iowa Purchasing Agents Associations. This fact was recognized when the study was undertaken, but time restrictions made it necessary to limit the universe in this study. The main time consideration in making a survey of the former type would be in selecting the sample. It must be recognized, however, that the results obtained in this study are applicable only to the study universe. The findings in this study should not be extrapolated to represent all purchasing departments in the United States.

Determination of the survey size. The survey could also have been improved by stratifying the sample. In this manner, it might have been possible to note the relationships between the extent of price forecasting and the size of the company, size of the purchasing department, nature of the company's products, types of materials purchased, etc. However, when stratification is employed, the sample

¹ See Appendix B for a sample of the follow-up letter.

size must be greatly expanded so that each strata has a reliable representation. This procedure increases the cost of a survey tremendously; and, for this reason, extensive stratification was not feasible in this study.

Data collection methods. Even though the mail questionnaire was the most logical choice for obtaining the desired information, this procedure has known limitations. The biggest difficulty encountered was in devising a set of questions which would adequately answer the objectives of this study. It is extremely difficult to determine the extent of a department's activity in price forecasting and how important this procedure is to that department in a mail questionnaire. Personal interviews would have been a much better method of obtaining this information if adequate finances and time had been available. Another important limitation is the number of questions which can be included in a mail survey. As the size of the questionnaire increases, it becomes increasingly more difficult to maintain the respondent's interest. Hence, in order to maximize the number of returned questionnaires and minimize the errors in filling out the questionnaires, it was necessary to limit the number of questions in the survey.

Design of the questionnaire. There are many advantages in using dichotomous and multiple choice questions.

Ease of tabulation, less bias, and more objectivity are three of the more important reasons which are usually given. However, these types of questions also have their limitations. The main objection to the use of dichotomous questions is that it forces the respondent to select one of two alternatives even though it is possible that neither of these alternatives actually expresses his true feelings.¹ For example, in a "yes-no" type question, the respondent may feel that "yes" would be the proper answer for most cases, but in other circumstances, "no" would be a better answer to the same question. It is likely that the respondent will answer this question "yes" when actually it is a qualified "yes". The difficulty is that the receiver of the questionnaire never knows if the answer was qualified or not.

Multiple choice questions must be constructed very carefully if they are to avoid being biased. The two main qualifications are that the alternatives given must be extensive and mutually exclusive. These qualifications are difficult to meet and hence, multiple choice questions are usually open to criticism. In addition, a certain amount of bias is unavoidable since the question lists

¹ This is true even though a "don't know" answer is usually added. Unless the question pertains to personal matters, most respondents prefer to select one of the two main alternatives.

possible answers for the respondent. This is especially true when the respondent is permitted to choose more than one of the answers. It is not uncommon for a respondent to select answers which appear logical even though he had never previously considered those answers to be important.

Follow-up procedures. Needless to say, if more follow-up letters had been sent, a greater number of returns would have been received. As previously mentioned, however, time did not permit this additional follow-up.

CHAPTER III

THE QUESTIONNAIRE RESULTS

The questionnaire was designed to obtain information concerning (1) the extent of purchasing's present activity in price forecasting and (2) whether purchasing agents are actually aware of the full importance of this procedure. It was necessary to obtain this information in order to determine if additional emphasis or improvement was required in purchasing's price forecasting program.

This chapter is divided into three sections. In section one, the response to the survey is analyzed and an attempt is made to describe some of the more important characteristics of the departments included in the survey. The purpose of this section was to provide the necessary background for interpreting the findings listed in the next two sections. Sections two and three relate the survey findings to the two basic questionnaire objectives; namely, to determine the extent of purchasing's present activity in price forecasting and to determine whether purchasing agents are aware of the full importance of this procedure.

I. SURVEY RESPONSE AND CHARACTERISTICS OF THE UNIVERSE

Survey response. The universe included 167 different purchasing departments located throughout the entire state of Iowa and the western half of Illinois. Since a questionnaire was sent to one purchasing agent in each of these departments, the entire universe was represented in the survey. Therefore, it will not be necessary to allow for any sampling error in establishing the reliability of the findings. The number of completed questionnaires which were returned was unusually high in this survey. Of the 167 responses solicited, 68 per cent or a total of 113 were returned. However, not all of these questionnaires are included in the findings. It was necessary to eliminate twelve questionnaires due to inaccuracies, missing information and extreme lateness in arrival. Hence, the findings are based on the questionnaires submitted by 101 purchasing departments or stating it differently, on 61 per cent of the entire universe. An appreciation of the percentage response in this study can be gained by viewing the following statement taken from a market research text. "Of questionnaires mailed to the general public only about 10 per cent are usually

returned, and this is sometimes as low as 3 per cent." ¹
In an earlier section, this same text also states "... the number who do not return mail questionnaires is almost always larger than 50 per cent." ²

Characteristics of the universe. One method of classifying purchasing departments is by the type of organization under which they serve. By this method, purchasing departments may be classified as belonging to one of the following categories: industrial, educational, institutional, or governmental. Although all four types of departments were represented in this study, the overwhelming percentage of departments were of the industrial type.

Another method of classifying purchasing departments is by size, based on the dollar value of annual expenditures. The usual categories are: small (annual expenditures under \$5 million), medium (\$5 million to \$50 million), and large (over \$50 million). Under this type of classification, the departments represented in the findings were distributed as follows: small - 72 per cent, medium - 22 per cent, large - 1 per cent, and no answer - 5 per cent. ³

¹ Harper W. Boyd, Jr., and Ralph Westfall, Marketing Research (Homewood, Illinois: Richard D. Irwin, Inc., 1956), p. 130.

² Ibid.

³ See Appendix C and Table I for a more detailed classification of departments by annual dollar expenditures.

The findings reported in this chapter are based on the total number of returned questionnaires from both associations. Originally, the plan had been to present the findings for each association separately, and then make the necessary comparisons. However, after the tabulations had been completed, it was apparent that there was no significant difference between the findings in these associations.¹ Therefore, the findings were combined and the total was analyzed. Furthermore, by combining these findings, a larger base was secured and this made it possible to make additional cross tabulations.

Before attempting to determine whether additional emphasis is required in purchasing's price forecasting program, it is important to ascertain that forecasting is necessary. In previous sections of this study, the need for advance information concerning future price changes has been shown and the tacit assumption has been that forecasting was the only method available for obtaining this information. In other words, it was assumed that purchasing agents were not advised of definite price changes far enough in advance of the effective date to enable their own function or management to make adequate plans for the future.

¹ With the exception of question 15, the percentage variance for each question was less than 10 per cent and most often, was within 3 per cent.

The questionnaire included two questions which were designed specifically to test this assumption. Briefly, these two questions attempted to determine (1) how often the purchasing department received definite information concerning future price changes, and (2) how far in advance of the effective date these price changes were known. ¹ The survey results showed that while practically all the purchasing agents did receive advance notification of future price changes, they did not receive this information far enough in advance of the effective date to be useful for planning or control purposes. It is important to note that purchasing generally had less than one month's advance notice of price changes and very seldom, if ever, more than three month's notice. ² Since adequate planning requires a knowledge of price changes for periods of much longer than three months, forecasting is necessary.

II. THE EXTENT OF PURCHASING'S PRESENT ACTIVITY IN PRICE FORECASTING

In previous sections of this study, it has been pointed out that all purchasing departments must of necessity forecast future price changes. However, this state-

¹ Questions 10 and 11 in the Questionnaire.

² See Appendix C and Table II for the exact lead time given for raw materials, M.R.O. items, and parts & assemblies.

ment, by itself, means very little. The important element to consider is the degree of thoroughness which is used in preparing these forecasts. By definition, a forecast is nothing more than an estimate of a future situation. It may be completely written out or exist only in the mind of an individual. It may be preplanned or made at the very instant it is needed. It can be based on the analysis of many individual components or just estimated in total. Regardless of the care with which it is prepared, an estimate of a future situation must be labeled as a forecast.

However, it is important to note that the value or usefulness of any forecast will depend upon the time, effort, and care which is expended in its preparation. A forecast based strictly on guesswork and lacking any detailed analysis is of little value to either purchasing or management. To be useful, a forecast must be carefully planned and structured so that the results which are attained represent the best estimate possible under the given situation. This is not to say that all forecasts must be elaborately designed or based on the most advanced statistical analyses available. What is meant is that a certain degree of planning and effort is necessary if a forecast is to be useful for planning and control purposes. The exact degree of effort required will be dictated by the decisions that are to be made from the forecast.

It has previously been shown that purchasing's price forecasts can be extremely valuable to other company functions as well as purchasing. This is true, of course, only if these forecasts are formalized, made available, and based on the best possible information. Therefore, in order to evaluate the adequacy of purchasing's price forecasting procedures, it is necessary to determine how these forecasts are being made.

Formalization. One of the most important requirements of a good price forecasting program is that the forecasts be formalized. As the term is used here, a formalized forecast is one which includes separate sub-forecasts of its component parts. In other words, the major forecast is made only after minor forecasts have been made on the important component parts in the major field of interest. This procedure insures (1) greater accuracy; (2) more flexibility; (3) ease in verifying internal consistency; and (4) greater utility.¹ The need for a formalized forecast cannot be over-emphasized. In fact, the whole success of any forecasting program, which is designed for business uses, depends heavily on this factor. Therefore, it is important to investigate purchasing's present forecasting procedures and determine if a sufficient number

¹ Maisel, op. cit., pp. 387-390.

of detailed analyses are being made. First of all, however, it is necessary to determine what component areas could or should be forecasted by the purchasing department. Actually, there are only two such areas which lend themselves to this type of analysis. Separate forecasts can be made either on a commodity group basis or on an individual part basis. Both of these methods will be investigated in the following section.

For record keeping and control purposes, most purchasing departments classify their purchases by commodity groups. For example, separate commodity codes may be set up for motors, fasteners, castings, maintenance parts, stampings, molded plastics, etc. A forecast which was based on separate estimates on each of these main commodity codes would be extremely useful. The survey results showed, however, that only 30 per cent of the departments attempted to forecast price changes for most of their main commodity groups.¹ A second method of attaining a formalized forecast would be to make separate estimates of the price changes expected on individual parts. This could be accomplished by estimating the price changes expected on the high-dollar value items only.² But here again, the survey

¹ Question 15 in the Questionnaire.

² As a rule, 85 per cent of the total inventory value is determined by only 15 per cent of the parts. This 15 per cent or a portion thereof could be classified as high-dollar value items.

results indicated that only 33 per cent of the departments attempted to forecast price changes for individual parts.¹ Since estimating by commodity code and/or by individual parts are the only practical methods of achieving a formalized purchasing forecast, it is important to investigate this area more thoroughly. It was found that 19 per cent of the departments were estimating by both methods, and an additional 24 per cent were using one of the methods but not both. Another way of stating this is that only 43 per cent of the departments were using one or both of the available methods for achieving a formalized forecast. The important point here is that more than half of the departments in the universe (57 per cent) are not attempting to make formalized forecasts.

Before leaving this section, it is advisable to point out that 64 per cent of all the departments in the study felt that they could do more in the area of price forecasting than they were presently doing.² The most interesting fact, however, was that more of the departments who were already making formalized forecasts felt this way than

¹ Question 20 in the Questionnaire.

² Question 21 in the Questionnaire.

the departments who weren't making formalized forecasts.¹ While the difference between these two groups is not significantly large, logically, one would expect the largest percentage to be among those departments not making formalized forecasts. Evidently, there are many departments in this latter group who feel that it is unnecessary to forecast price changes or that it is an impossible task.

Availability. The next logical step in evaluating purchasing's price forecasting program is to determine if purchasing is making their forecasts available to other company functions. It has been shown that these forecasts can help other functions to accomplish their objectives, but this is true only if purchasing makes this information available.

Since a forecast must be formalized to be of any value to other functions, it is of interest to determine what percentage of the departments who make formalized forecasts also make this information available to other functions. At this point, it is important to remember that only 43 per cent of the departments were attempting to make formalized forecasts.² The survey results

¹ Departments making formalized forecasts - 66 per cent; departments not making formalized forecasts - 63 per cent.

² Reference to formalization section, p. 33.

indicated that 52 per cent of these departments forwarded a copy of their forecast to management, and 39 per cent forwarded copies to other departments.¹ Some of the reasons why a larger percentage of departments did not forward this information to other functions will be given in a later section, but the important point here is the fact that many of the departments are not making this information available to other functions.

One of the most important forecasts which can be made by purchasing is an estimate of the total amount of expenditures to be made in a future time period.² Naturally, a consideration of future price changes is necessary in a forecast of this kind. Despite the importance of this particular forecast, it was found that only 30 per cent of the departments had estimated their 1960 annual expenditures, as of February 1, 1960.³ Furthermore, of those departments who had prepared estimates of their 1960 expenditures, 17 per cent had not taken future price changes into consideration, and 20 per cent did not plan on reviewing their

¹ Questions 25 and 31 in the Questionnaire.

² Usually for one year; estimate may be further broken down by quarters or by months.

³ Question 3 in the Questionnaire. February 1, 1960 is the date the departments first received the questionnaire.

estimate later on in the year.¹ Without attempting to judge the reliability of these forecasts any further, it would appear that at least 70 per cent of the departments are not even attempting to make this forecast; and, therefore, they cannot possibly forward this information onto other functions.

Sources of information. It is axiomatic that a forecast must be based on the best information available if it is to be of value to any function. In one sense, this means that the forecast must be formalized so that the component parts of the forecast can be reviewed and verified by the user. Since this area has already been discussed, it will not be necessary to reinvestigate this subject in this section. It is important, however, to know if purchasing departments are utilizing all the sources of information which are available to them. Listed below are some of the main sources of information which can be advantageously used in forecasting price changes and the percentage of departments making use of these sources.²

¹ Questions 4 and 7 in the Questionnaire.

² Question 12 in the Questionnaire. These sources were listed in the questionnaire, and the departments were requested to check the sources which they used to obtain information on future price changes.

Vendor salesmen -----	93%
Vendor plant management -----	49
Articles or forecasts in purchasing magazines -----	62
Articles or forecasts in trade magazines -----	59
Buyer's own knowledge of vendor's past history -----	37

From this abbreviated table, it can be seen that, aside from vendor salesmen, purchasing departments are not using all the sources of information available to them. Most noticeably low is the percentage of departments making use of their own knowledge of their vendor's past history. This is, perhaps, the most important source of information available. In addition, this source is not available to anyone in the company except the purchasing department.

The survey also showed that only 16 per cent of the departments attempted to maintain price trend graphs for their high-dollar value items.¹ In addition to other uses, price trend graphs can be extremely valuable as a source of information in making forecasts of future price changes.²

III. RECOGNITION OF THE IMPORTANCE OF PRICE FORECASTING

The inadequacies in purchasing's present price forecasting program have been shown in Section II. By way of

¹ Question 13 in the Questionnaire.

² It is interesting to note that 75 per cent of the departments which did maintain price trend graphs said that they were useful in forecasting future price changes.

review, it was observed that the majority of purchasing departments (1) did not make formalized forecasts of future price changes; (2) did not forward this information onto other company functions; and (3) did not utilize many of the basic sources of available information. Obviously, there is a need for increased emphasis or improvement in this vital area. However, this conclusion only partially answers the study objective. It is equally important to know whether purchasing agents actually realize the full significance of price forecasting to their own function and to management. If purchasing agents are fully aware of the significance of this procedure and they still do not have an adequate price forecasting program, a different problem exists than if this knowledge is lacking and is the cause of an inadequate program. An attempt was made in the following two sub-sections to ascertain whether the importance of price forecasting is recognized by purchasing for their own function and for management.

To Purchasing. The survey results have shown that 57 per cent of the departments are not attempting to make formalized forecasts at the present time.¹ Since these departments have the weakest price forecasting programs,

¹ Those departments who have not attempted to forecast price changes either by commodity code or by individual parts.

it is important to investigate this area first. Therefore, all departments in this category were asked to list their reason(s) for not attempting to make formalized forecasts.¹ The most frequent answers given were--not enough time and lack of personnel (46 and 47 per cent respectively). The unstated implication here is that these departments would forecast if they had more time or more personnel. This also implies, however, that purchasing agents are not convinced of the importance of this procedure; and, therefore, they are unwilling to devote a sufficient part of their time to forecasting. The next most important reason listed was that there was not a sufficient amount of information available upon which an accurate forecast could be made (40 per cent). However, since there is a sufficient amount of forecasting information available to purchasing, this reply indicates that there is a need for more education in this area. In addition, 30 per cent of the departments indicated that forecasts of future price changes would not be useful at all to their own department. This means that at least 30 per cent of all the departments are not aware of any significance of this procedure. From the reasons given for not making formalized forecasts, it is only reasonable to conclude that very few of these departments

¹ Question 32 in the questionnaire. Possible answers were listed for the respondents.

are actually aware of the full significance of price forecasting.

It is also of interest to determine whether the full significance of price forecasting is recognized by those departments which are making formalized forecasts. The departments in this category were asked to check the areas (listed in the questionnaire) in which their forecasts had been useful.¹ The percentage of departments which found that their forecasts had been useful in each of the given areas are listed below:

<u>Areas</u>	<u>% of Departments</u>
(a) In estimating future purchasing expenditures -----	52%
(b) In determining proper inventory levels -----	70
(c) In determining what items require special cost reduction effort or value analysis -----	50
(d) In keeping management advised on expected cost changes -----	68
(e) In negotiating prices of future orders with vendors -----	55
(f) In determining whether to buy larger or smaller quantities than normally -----	75

These figures indicate that many of these purchasing departments are not using their forecasts as advantageously as they could. The conclusion then must be that either they are not aware of these additional applications, or they are

¹ Question 23 in the Questionnaire.

not convinced that a forecast can be useful in these areas. Regardless of which alternative is true, the fact remains that the full significance of price forecasting is not even recognized by many of the departments which are making formalized forecasts.

To Management. As previously stated, a forecast must be formalized if it is to be of any value to the management function. The results of the survey have shown, however, that only 43 per cent of the departments are presently attempting to make formalized forecasts. Furthermore, of this 43 per cent, only about half of the departments are forwarding a copy of their forecast to management. This means that when the universe as a whole is considered, only 23 per cent of all the departments are attempting to both formalize their forecasts and make them available to management. This low percentage, by itself, is a good indication that purchasing agents are not taking full advantage of the opportunity to assist their management through price forecasting.

Although it was not within the scope of this study to completely explore this area, the questionnaire did attempt to provide some information on this subject. One interesting point is that 18 per cent of the departments which were not making formalized forecasts gave as a reason for not

doing so the fact that their forecasts would not be useful to management.¹ By most standards, this percentage might seem low; but, in this instance, it is highly significant. It means that approximately one-fifth of the departments in this category are completely unaware of any importance of this procedure to company management.

It is also interesting to note the reasons given by those departments which were making formalized forecasts for not forwarding a copy of their estimate to management.² By far, the largest single reason given was that management had never requested this information (55 per cent). While this answer does not provide any direct insight into the problem at hand, it does indicate that many purchasing agents assume that if management hasn't asked for a report it isn't necessary to make one. The "insufficient time" answer was given by 39 per cent of the departments. Again, it must be concluded that purchasing is not convinced of the importance of this procedure since any time schedule can be easily rearranged if the need for doing so is recognized. In addition, 11 per cent of the departments stated that management would not have any use for this information.

¹ Question 32 in the Questionnaire.

² Question 30 in the Questionnaire. Respondents could list more than one reason, if desired.

Another set of questions was designed especially for those departments which were forwarding formalized forecasts to management. It was discovered that one-fourth of these departments had been requested by management to provide this information, while the remaining 75 per cent had instituted the report on their own initiative.¹ Moreover, almost three-quarters of the departments included specific recommendations in the report which were based on the findings of their forecast.² These departments were also asked to check the areas in which management had used their forecasts. The percentage of departments who stated that management used their forecast in each of the given areas are listed below.³

<u>Areas</u>	<u>% of Departments</u>
(a) In estimating future profits of the company -----	42%
(b) In determining prices for the company's products -----	74
(c) As an aid in projecting inventory costs -----	52
(d) Aid in determining whether to make in-plant or purchase -----	35
(e) In deciding what parts or commodities require additional cost reduction effort -----	39
(f) In deciding whether to continue manufacturing certain products -----	30

¹ Question 26 in the Questionnaire.

² Question 27 in the Questionnaire.

³ Question 29 in the Questionnaire.

Actually, management should be able to use purchasing's forecast in each of the areas listed above. However, it is impossible to determine why these percentages were so low with the information at hand. On one hand, management could be using the purchasing forecast in each of these areas and purchasing is not aware of it. This would lead to the conclusion that purchasing is not aware of the full significance of price forecasting to management. On the other hand, it is entirely possible that management is not aware of the full importance of this procedure, or of all its applications. A study to determine which alternative is true would be most illuminating.¹ Although no definite conclusion can be made on this point, enough information has been presented to show that the significance of price forecasting to management is not fully recognized by the purchasing function.

¹ See Appendix D for an illustration of a management questionnaire which might be used to obtain this information.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

The purpose of this study was to examine one of the most important areas in purchasing today, namely, price forecasting, and determine whether additional emphasis or improvement is required in this vital area. An active price forecasting program by the purchasing function can be extremely valuable to other company functions as well as purchasing. Unfortunately, very little has been written in the leading purchasing textbooks, magazines, and reference manuals to show the importance of this procedure to the purchasing function. In addition, very little has been done to determine the extent of purchasing's present activity in this area or whether purchasing agents are even aware of the full significance of price forecasting. This study attempted to provide this information so that the need for additional emphasis in this area could be ascertained.

I. SUMMARY

While it is true that all purchasing departments must of necessity forecast future price changes, the degree of thoroughness used in preparing these forecasts can and does vary considerably between companies. Since the accuracy and resultant usefulness of any forecast depends so heavily

upon the care and thoroughness with which the forecast is prepared, it was necessary to investigate this preparatory stage very carefully. In other words, a purchasing price forecasting program can be extremely valuable if it is conducted in a thorough and efficient manner. If it can be shown that these programs are not being conducted in this manner, the need for increased emphasis or improvement in this area will have been ascertained. The reason for this need, if it exists, can be further defined by determining whether purchasing agents are aware of the full significance of this procedure to their own function and to management.

To evaluate the adequacy of purchasing's present price forecasting program and determine if additional emphasis or improvement is required in this area, three of the most important characteristics of a good forecasting program were examined. These characteristics were: (1) formalization, i.e., whether the forecasts were based on a sufficient number of detailed analyses; (2) availability, i.e., whether purchasing made their forecasts available to other functions; and (3) sources of information, i.e., whether purchasing was using the main sources of information which are available in forecasting price changes. The survey results indicated that there was a lack of purchasing effort in all three of these important areas. Since each of these elements or characteristics are essential to a good forecasting program,

there can be little doubt that additional emphasis or improvement is required in this vital area.

Having ascertained that there was a need for increased emphasis in this area, an attempt was then made to determine whether purchasing agents were actually aware of the full significance of price forecasting. If purchasing agents are fully aware of the significance of this procedure and they still do not have an adequate price forecasting program, a different problem exists than if this knowledge is lacking and is actually the cause of the inadequate programs. The survey results indicated that very few of the departments were aware of the full significance of price forecasting either to their own function or to management. It was observed that even those departments which were making formalized forecasts, based on the best sources of information available, were not using their forecasts as advantageously as they could have. Many of the departments having the weakest forecasting programs stated that a program of this type would not be useful at all in either their own department or to management. From the findings in this survey, it appears that one of the major reasons why purchasing agents do not have a more effective and useful price forecasting program is that they do not fully appreciate the value of this procedure to either their own function or to management.

At the same time, however, it is important to recognize some of the other reasons which were given for not having a more effective forecasting program. Many departments indicated that they did not have enough time to spend on forecasting. Other departments stated that there was an insufficient amount of information available upon which an accurate forecast could be made. Still others thought that forecasting future price changes was an impossible task and it was foolish to even consider it. One respondent took the following extreme viewpoint:

The writer did fill out part of the other set and finally tore it up. Most of the questions are absolutely silly. You dwell mostly on the purchasing department forecasting price trends which is entirely out of the question. No purchasing agent is a "Houdini" in doing the impossible. Take questions 38, 39, and 40 for example. I think eventually there will be a price increase. I do not know the percentage or even hazard a guess, nor when it will become effective. Only the steel companies would know this as you should well know.

All of these reasons help to substantiate the conclusion that there is a definite need for additional emphasis and education in the area of price forecasting by the purchasing function.

II. RECOMMENDATIONS

The findings in this study have shown that there is a need for improvement and additional emphasis by the purchasing function.

ing function in the area of price forecasting. Since it has also been shown that this procedure can be of tremendous value to other company functions as well as purchasing when it is accomplished in the proper manner, it is recommended that additional studies be undertaken to determine the best methods and procedures for increasing purchasing's activity in this area. Although it was neither the purpose nor the intent of this study to offer any such proposals for future action, there are two recommendations that can be drawn from the findings of the survey which appear to be highly significant and worthy of future consideration.

1. The first recommendation is that a concentrated effort be made to provide purchasing agents with more information concerning the importance of having an effective forecasting program. There can be little doubt that as purchasing agents become more fully aware of the many contributions which price forecasting is capable of producing to other company functions as well as purchasing, the quality of purchasing's forecasting programs will improve. There are many ways in which this information can be made known to purchasing agents throughout the country. The importance of this procedure can be stressed in the meetings and publications of both the national and local purchasing agents associations. In addition, the leading purchasing magazines, textbooks, and reference manuals can assist in this

endeavor by continually publicizing the value of price forecasting. Once the importance of price forecasting is fully recognized, many of the superficial problem areas, normally associated with forecasting, will automatically disappear.

2. In addition to pointing out the importance of price forecasting, it will also be necessary to show purchasing agents how to establish an effective price forecasting program. Although it is impossible to devise any one forecasting program which could be used by all departments, enough general rules, methods, and procedures can be given so that each department can set up their own program. Since this again is strictly an educational process, the same means of communication mentioned in the previous paragraph can be successfully utilized here also.

Any type of successful forecasting program is difficult to establish and maintain. The two recommendations stated herein are only the initial steps which are required in this area. However, because of the tremendous significance of this procedure to other company functions as well as purchasing, any efforts expended in this area will be most rewarding. In fact, if the proper emphasis is given to price forecasting, this program may well be the most important contribution that the purchasing department is capable of making in the future.

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APPENDICES

Many of the people have the notion that the Bureau is a "big game" and that the people feel that the Bureau is a "big game".

APPENDIX A

PURCHASING QUESTIONNAIRE

2500 Kingman Blvd.
Des Moines, Iowa
January 27, 1960

A.B.C. Corporation
1000 Atlantic Avenue
Newton, Iowa

ATTENTION: Mr. John R. Smith

Dear Mr. Smith:

Many articles have been written on how to improve the status of the Purchasing Agent and the Purchasing Department within the company. Although Purchasing has made great strides in this area since World War II, many people feel that this function has still not reached the management position it deserves.

Through the generosity of the Purchasing Agents Association of Central Iowa, I have been given the opportunity to further my education in Purchasing and at the same time, receive a Master of Arts degree in Economics at Drake University. I feel that I can best show my appreciation for this fellowship by attempting to contribute something which will benefit the Purchasing profession in general.

With this in mind, I have decided to write my thesis on Purchasing, and in particular, on the means by which Purchasing can improve its status within the company organization. To accomplish this objective, however, I will need the assistance of Purchasing Agents throughout Iowa.

You can contribute directly to this cause by filling in the attached questionnaire and returning it to my attention as soon as possible. Most of the questions can be answered quickly by placing an "x" in the check block opposite your answer choice. I am taking the liberty of thanking you in advance for your cooperation in helping to make this project successful.

Sincerely,

HWG:jeg

Harry W. Gsell, Jr.

PURCHASING QUESTIONNAIRE

1. Does your office buy raw materials, maintenance, repair and organizational items and parts & assemblies?

	<u>Yes</u>	<u>No</u>
(a) Raw Materials -----	<input type="checkbox"/>	<input type="checkbox"/>
(b) M.R.O. Items -----	<input type="checkbox"/>	<input type="checkbox"/>
(c) Parts & Assemblies -----	<input type="checkbox"/>	<input type="checkbox"/>
2. Does your office buy raw materials, M.R.O. items and parts & assemblies primarily for direct resale or for incorporation into your company's own products?

	<u>For Direct Resale</u>	<u>For Use in Plant or in Company Products</u>
(a) Raw Materials -----	<input type="checkbox"/>	<input type="checkbox"/>
(b) M.R.O. Items -----	<input type="checkbox"/>	<input type="checkbox"/>
(c) Parts & Assemblies -----	<input type="checkbox"/>	<input type="checkbox"/>
3. Has your office estimated the amount of money Purchasing will spend during 1960?

Yes ☐ No ☐

If "yes", please answer questions 4, 5, 6, and 7. If "no", skip to question 8.
4. Did your estimate take into consideration possible future price changes which may become effective later on in the year?

Yes ☐ No ☐
5. Was a copy of this estimate given to company management?

Yes ☐ No ☐
6. Was a copy of this estimate given to any other department(s)?

Yes ☐ No ☐

If "yes", what department(s) _____
7. Do you plan on reviewing this estimate later on in the year and revising it if necessary?

Yes ☐ No ☐
8. Do you submit written reports to company management?

Yes ☐ No ☐
9. If "yes", do you include any of the following information in your reports to company management? (Place an "x" in as many boxes as necessary).

(a) Adequacy of present capacity in vendors' plants for critical items -----	<input type="checkbox"/>
(b) Estimate of future adequacy of capacity in vendors' plants -----	<input type="checkbox"/>
(c) A comparison of present prices paid versus those paid last year or in previous years -----	<input type="checkbox"/>
(d) Important cost reductions made by Purchasing -----	<input type="checkbox"/>
(e) A list of important vendors whose labor contracts are due to expire in the near future -----	<input type="checkbox"/>

10. How often does your department know about future price changes in advance of the time these price changes will become effective for raw materials, M.R.O. items, and parts & assemblies?

	Most of the Time	Some of the Time	Very Seldom
(a) Raw Materials -----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) M.R.O. Items -----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Parts & Assemblies -----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Approximately how far in advance of the effective date are these anticipated price changes known for raw materials, M.R.O. items and parts & assemblies?

Raw Materials	M.R.O. Items	Parts & Assemblies
(a) under 1 month- <input type="checkbox"/>	(a) under 1 month- <input type="checkbox"/>	(a) under 1 month- <input type="checkbox"/>
(b) 1 to 3 months- <input type="checkbox"/>	(b) 1 to 3 months- <input type="checkbox"/>	(b) 1 to 3 months- <input type="checkbox"/>
(c) 3 to 6 months- <input type="checkbox"/>	(c) 3 to 6 months- <input type="checkbox"/>	(c) 3 to 6 months- <input type="checkbox"/>
(d) over 6 months- <input type="checkbox"/>	(d) over 6 months- <input type="checkbox"/>	(d) over 6 months- <input type="checkbox"/>

12. How does your department obtain information concerning future price changes? (Place an "x" in as many boxes as necessary).

(a) From talking with vendor salesmen ----- ☐

(b) From talking with vendor plant
management ----- ☐

(c) From articles or forecasts in
Purchasing magazines ----- ☐

(d) From articles or forecasts in
Trade magazines ----- ☐

(e) From buyers own knowledge of vendors
past history, etc. ----- ☐

(f) From corporate Purchasing headquarters ----- ☐

(g) Other (specify) _____

13. Does your department attempt to maintain price trend graphs for your high dollar value purchased items?

Yes ☐ No ☐

14. If answer to question 13 was "yes", have these price trend graphs proven useful in forecasting future price changes?

Yes ☐ No ☐

15. Does your office attempt to forecast future price changes for most of your major commodity groups? (Such as motors, steel, fasteners, sheet metal parts, etc.)

Yes ☐ No ☐

If "yes", please answer questions 16, 17, 18, and 19. If "no", skip to question 20.

16. In your last forecast, what commodity group was expected to experience the largest price change in 1960 and by what percentage was it expected to change?

Commodity Group _____
Percentage Change _____%

17. Please list some of the other commodity groups on which your office has attempted to forecast price changes.
-
18. How often are these forecasts of commodity group price changes made?
- | | |
|--|---|
| (a) every month ----- <input type="checkbox"/> | (d) annually ----- <input type="checkbox"/> |
| (b) every quarter ----- <input type="checkbox"/> | (e) no set time ----- <input type="checkbox"/> |
| (c) semi-annually ----- <input type="checkbox"/> | (f) when requested by management ----- <input type="checkbox"/> |
19. How long a period is covered by these forecasts?
- | | |
|---|---|
| (a) 1 month ----- <input type="checkbox"/> | (d) longer than 1 year-- <input type="checkbox"/> |
| (b) 3 months ----- <input type="checkbox"/> | (e) Other (specify) _____ |
| (c) 6 months ----- <input type="checkbox"/> | |
20. Does your office attempt to forecast price changes for any individual parts, commodities or assemblies?
- Yes ☐ No ☐
- If "yes", please list a few examples. _____
-
21. Do you feel that your department could do more in the area of price forecasting than it presently is doing?
- Yes ☐ No ☐
22. Are you planning to increase your effort in this area?
- Yes ☐ No ☐
- If you have answered either question 15 or 20 "yes", please answer questions 23, 24, and 25. If you have answered both questions "no", skip to question 32.
23. In which of the following areas have these forecasts been useful to your department? (Place an "x" in as many boxes as necessary)
- | | |
|---|--------------------------|
| (a) In estimating future Purchasing expenditures ----- | <input type="checkbox"/> |
| (b) In determining proper inventory levels ----- | <input type="checkbox"/> |
| (c) In determining what items require special cost reduction effort or value analysis ----- | <input type="checkbox"/> |
| (d) In keeping management advised on expected cost changes ----- | <input type="checkbox"/> |
| (e) In negotiating prices of future orders with vendors ----- | <input type="checkbox"/> |
| (f) In determining whether to buy larger or smaller quantities than normally ----- | <input type="checkbox"/> |
24. Have they proven useful in any other areas? If so, please explain. _____
-
25. Do you furnish company management with a copy or a summary of these detailed forecasts?
- Yes ☐ No ☐
- If "yes", please answer questions 26, 27, 28, and 29. If "no", skip to question 30.

26. Did management request that these forecasts be furnished or was the idea initiated by Purchasing?
 Management _____ Purchasing's
 Requested ----- ☐ idea ----- ☐ Don't know --- ☐
27. Does your report include specific recommendations based on the findings of this forecast?
 Yes ☐ No ☐
28. After receiving your forecasts, has management ever taken any of the following steps during the last year? (Place an "x" in as many boxes as necessary)
- (a) Requested more information or clarification of a forecast ----- ☐
 - (b) Expressed a desire for a special forecast to solve a particular problem ----- ☐
 - (c) Made comments on how the forecast might be improved ----- ☐
29. How has management used these forecasts? (Place an "x" in as many boxes as necessary)
- (a) In estimating future profits of the company ----- ☐
 - (b) In determining prices for the company's products ----- ☐
 - (c) As an aid in projecting inventory costs ----- ☐
 - (d) Aid in determining whether to make in-plant or purchase ----- ☐
 - (e) In deciding what parts or commodities require additional cost reduction effort ----- ☐
 - (f) In deciding whether to continue manufacturing certain products ----- ☐
 - (g) Other (Please explain) _____
-
- (Now skip to Question 31)
30. If copies of your forecasts are not furnished to management, what is the reason or reasons for not furnishing management with a copy? (Place an "x" in as many boxes as necessary)
- (a) Insufficient time available to formalize report for management ----- ☐
 - (b) Information is not accurate enough to pass on ----- ☐
 - (c) Management has no need for this information ----- ☐
 - (d) Management is getting this information from other sources ----- ☐
 - If so, what source _____
 - (e) Management has never requested this type of information ----- ☐
 - (f) Other (Please specify) _____
-

31. Are copies of these forecasts sent to any other department(s) in your company?

Yes ☐ No ☐

If "yes", what department(s) _____

(Now Please skip to Question 33)

32. If price forecasts are not made by your office, please list the reason(s) for not making them. (Place an "x" in as many boxes as necessary).

(a) Not enough time to make forecasts ----- ☐

(b) Lack of personnel ----- ☐

(c) Forecasts would not be useful in my department ----- ☐

(d) Some other department is forecasting price changes on purchased items ----- ☐

If so, what department _____

(e) Insufficient information is available to make accurate forecasts ----- ☐

(f) Forecasts would not be useful to company management ----- ☐

(g) Other (Please explain) _____

Now lets talk about just one commodity group-that commodity group on which you spent the most money during 1959. (Such as steel, stampings, motors, paper, etc.)

33. What commodity group did you spend the most money for during 1959?

Commodity Group _____

34. Do you attempt to forecast or obtain information about future price changes for this commodity group?

Yes ☐ No ☐

35. If your answer to question 34 was "yes", what indexes or other sources of information do you find helpful in making these forecasts or estimates? _____

36. Generally, what has been the price trend of this commodity group over the last two years? (Please list percentage increase or decrease for 1958 and 1959) _____

37. How do you expect prices to change over the next year for this commodity? (Please list estimated percentage increase or decrease for 1960) _____

GENERAL QUESTIONS

38. Do you expect the price of steel to increase?

Yes ☐ No ☐

39. If "yes", by what percentage _____%.

40. If "yes", when do you expect this increase to become effective? _____

Many thanks! Just so I can properly classify your answers, will you please give me some information about your department and company? All information given below will be kept strictly confidential.

Company Name _____

Major Products or Service _____

Approximate Total Annual Sales of Company or Corporation.

- (a) under \$1,000,000 ----- ☐
 (b) from \$1,000,000 to \$5,000,000 ----- ☐
 (c) from \$6,000,000 to \$10,000,000 ----- ☐
 (d) from \$11,000,000 to \$50,000,000 ----- ☐
 (e) over \$50,000,000 ----- ☐

Number of Personnel in your Purchasing Office _____

Number of Buyers in your Purchasing Office _____

Title of the man to whom the Purchasing Agent reports _____

Approximate Annual Expenditure by your Purchasing Office.

- (a) under \$1,000,000 ----- ☐
 (b) from \$1,000,000 to \$5,000,000 ----- ☐
 (c) from \$6,000,000 to \$10,000,000 ----- ☐
 (d) from \$11,000,000 to \$25,000,000 ----- ☐
 (e) from \$25,000,000 to \$50,000,000 ----- ☐
 (f) over \$50,000,000 ----- ☐

Name of Person filling out Questionnaire _____

Title _____

Please return questionnaire as soon as possible to:

Mr. Harry W. Gsell, Jr.
 2500 Kingman Blvd.
 Des Moines 11, Iowa

APPENDIX B

FOLLOW-UP LETTER

2500 Kingman Blvd.
Des Moines 11, Iowa
February 13, 1960

A.B.C. Corporation
1000 Atlantic Avenue
Newton, Iowa

ATTENTION: Mr. John R. Smith

Dear Mr. Smith:

In case my first questionnaire was sent to the wrong address or misplaced in some other way, I am sending another copy to your attention. As mentioned in my first letter, this information is to be used in my thesis and will remain strictly confidential.

Actually, the response to the first mailing of this questionnaire has been tremendous and has exceeded even my own optimistic estimate. Notwithstanding this fact, however, I am sure you realize that the reliability which can be placed on any study depends greatly on the number of completed questionnaires that are returned.

With this in mind, I sincerely hope that you will be able to find the time to complete this questionnaire and return it to my attention. Thanking you in advance for your cooperation, I remain,

Sincerely yours,

Harry W. Gsell, Jr.

HWG:jeg

APPENDIX C

TABLE I

APPROXIMATE ANNUAL EXPENDITURES BY PURCHASING
DEPARTMENTS INCLUDED IN THE SURVEY

Categories	Number of Departments	% of Total	Cumulative Percentage
Under \$1,000,000 -----	26	26%	26%
From \$1,000,000 to \$5,000,000 ----	47	47	73
From \$5,000,000 to \$10,000,000 ---	9	9	82
From \$10,000,000 to \$25,000,000 --	8	8	90
From \$25,000,000 to \$50,000,000 --	5	5	95
Over \$50,000,000 -----	1	1	96
No Answer -----	5	5	101

TABLE II

APPROXIMATELY HOW MUCH ADVANCE NOTICE PURCHASING
HAS OF FUTURE PRICE CHANGES (By Percentage
of Departments).

Categories	Raw Materials	M.R.O. Items	Parts & Assemblies
Under 1 month -----	57%	84%	68%
1 to 3 months -----	42	16	31
3 to 6 months -----	1	0	1
Over 6 months -----	0	0	0

APPENDIX D

PROPOSED MANAGEMENT QUESTIONNAIRE

1. Has the Purchasing Department furnished company management with an estimate of their 1960 expenditures?
Yes ☐ No ☐
If answer is "yes", please answer questions 2 and 3. If "no", skip to question 4.
2. Did Purchasing take into consideration the effect of possible future price changes in this estimate?
Yes ☐ No ☐ Don't Know ☐
3. Did Purchasing include in this estimate a forecast of how prices were expected to vary on your company's major purchased items for the coming year?
Yes ☐ No ☐
4. Does the Purchasing Department furnish company management with periodic forecasts of future price changes on the company's major purchased commodities? (Like steel, motors, maintenance items, paper, etc.)
Yes ☐ No ☐
If "yes", please answer questions 5, 6, 7, 8, and 9. If "no", please answer questions 10, 11, and 12.
5. How often does Purchasing furnish these forecasts?

(a) monthly ----- <input type="checkbox"/>	(e) no set time ----- <input type="checkbox"/>
(b) quarterly ----- <input type="checkbox"/>	(f) when requested ----- <input type="checkbox"/>
(c) semi-annually ----- <input type="checkbox"/>	by management ----- <input type="checkbox"/>
(d) annually ----- <input type="checkbox"/>	(g) Other ----- <input type="checkbox"/>
6. How long a period do these forecasts cover?

(a) 3 months ----- <input type="checkbox"/>	(c) 1 year ----- <input type="checkbox"/>
(b) 6 months ----- <input type="checkbox"/>	(d) longer than 1 yr-- <input type="checkbox"/>
7. Have you found these forecasts helpful in making decisions in any of the following areas? (Place an "x" in as many boxes as necessary)

(a) Estimating future profits of the company -----	<input type="checkbox"/>
(b) Determining prices for your company's products -----	<input type="checkbox"/>
(c) Maintaining the proper inventory level -----	<input type="checkbox"/>
(d) Whether to make in-plant or buy outside -----	<input type="checkbox"/>
(e) What parts or commodities require additional cost reduction effort (redesign, substitution of materials, etc.) -----	<input type="checkbox"/>
(f) Deciding whether to continue manufacturing certain products -----	<input type="checkbox"/>

8. Have these forecasts proven useful in any other management areas? If so, please list. _____
9. How could Purchasing improve these forecasts? _____

- (Now please skip to question 13)
10. Does some department, other than Purchasing, provide you with forecasts of future price changes on purchased items?
 Yes ☐ No ☐
- If "yes", what department _____
11. If Purchasing was able to furnish you with periodic forecasts of future price changes by commodity classification, would it help you make decisions in the following areas? (Place an "x" in as many boxes as necessary)
- (a) Estimating future profits of the company ----- ☐
 - (b) Determining prices for your company's products ----- ☐
 - (c) Maintaining the proper inventory level ----- ☐
 - (d) Whether to make in-plant or buy outside ----- ☐
 - (e) What parts or commodities require additional cost reduction effort (redesign, substitution of materials, etc.) ----- ☐
 - (f) Deciding whether to continue manufacturing certain products ----- ☐
 - (g) Other (Please list). _____
12. Would you like to receive forecasts of expected price changes on major commodities if they could be supplied by Purchasing?
 Yes ☐ No ☐
13. Has Purchasing supplied company management with an estimate of how much steel prices are expected to change as a result of the new steel contract?
 Yes ☐ No ☐
14. If "yes", did they indicate the affect this would have on the company's expenditures for steel?
 Yes ☐ No ☐

Many thanks! Just so I can properly classify your answers, will you please give me some information about your company. All information given below will be kept strictly confidential.

Company Name _____
 Major Products or Service _____

Approximate total annual sales of Company or Corporation.

- (a) under \$1,000,000 ----- ☐
- (b) from \$1,000,000 to \$5,000,000 ----- ☐
- (c) from \$6,000,000 to \$10,000,000 ----- ☐
- (d) from \$11,000,000 to \$50,000,000 ----- ☐
- (e) over \$50,000,000 ----- ☐

To whom does your Purchasing Agent report? _____

Name of person filling out questionnaire _____

Title _____

Please return questionnaire as soon as possible to:

Mr. Harry W. Gsell, Jr.
2500 Kingman Blvd.
Des Moines 11, Iowa